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EXAMINER	
KIM, PAUL	

ART UNIT	PAPER NUMBER
2161	

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/626,835	BOHANNON ET AL.	
	Examiner	Art Unit	
	Paul Kim	2161	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24 July 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-32* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3,6,8-11,15,17-19,23-26,29,31 and 32* is/are rejected.

7)☒ Claim(s) *4,5,7,12-14,16,20-22,27,28 and 30* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *24 July 2003* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

SAM RIMELL
PRIMARY EXAMINER

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *09 January 2004*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. This office action is responsive to the following: Original Application filed on July 24, 2003.

2. Claims 1-32 are pending. Claims 1, 10, 19 and 24 are independent.

Drawings

3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description:

- Page 6, line 28: *Figure 1, element 100, "schema tree query"*;
- Page 10, line 10: *Figure 8, element 800, "context transition graph"*;
- Page 10, line 14: *Figure 9, element 900, "traverse view query"*;
- Page 11, line 28: *Figure 10, element 1000, "output tag tree"*;
- Page 12, line 1: *Figure 11, element 1100, "stylesheet view"*;
- Page 12, line 25: *Figure 12, element 1200, "tree-pattern query"*;
- Page 13, lines 5-6: *Figure 12, elements 1210-1230, "pattern"*;
- Page 13, line 15: *Figure 13, element 1300, "stylesheet-composition algorithm"*; and
- Page 14, line 9: *Figure 14, element 1400, "UNBIND function"*.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of

an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

4. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description:

- *Figure 4, element 400.*

Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. **Claims 8-9, 17-18, 23, and 31-32** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

7. Regarding **claims 8, 17, 23, and 31**, the limitation "said traverse view query" is recited in lines 2 and 3 of the claims. There is insufficient antecedent basis for this limitation in the claim.

8. Regarding **claims 9, 18, and 32**, the terms "substantially" and "similar" are relative terms which renders the claim indefinite. The terms "substantially" and "similar" are not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

Claim Rejections - 35 USC § 102

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

10. **Claims 1, 10 and 24** are rejected under 35 U.S.C. 102(b) as being anticipated by Helgeson (U.S. Patent No. 6,643, 652, hereinafter referred to as HELGESON), filed on January 12, 2001, published on June 13, 2002, and issued on November 4, 2003.

11. Regarding **independent claim 1**, HELGESON teaches:

> A method for exporting at least a portion of a relational database to an XML document, comprising the steps of:
>
> obtaining an initial view query that defines an XML view on a relational database *{See HELGESON, col. 80, lines 51-55, wherein this*

reads over "[m]odel pages are responsible for producing an XML representation of the content of the page . . . [by] executing complex business logic (e.g., running database queries"} and an XSLT stylesheet specifying at least one transformation *{See HELGESON, col. 51, lines 32-34, wherein this reads over "an XSLT stylesheet that transforms the model into a specific presentation environment"; and col. 65, lines 45-55, wherein this reads over "[t]he default XSLT processor that comes with Cocoon performs a single XSLT transformation only"}*;

modifying said initial view query to account for an effect of said at least one transformation *{See HELGESON, col. 49, lines 46-53, wherein this reads over "Style Sheet Control System 810contains mechanisms to manipulate various kinds of display style sheets . . . and also can allow vendors/developers to modify . . . the mechanisms"; and col. 73, line 29 – col. 74, line 24, wherein this reads over "wdk taglibrary . . . includes tags for . . . managing the input and output parameters to the model page"}*; and

applying said modified view query to said relational database to obtain said XML document *{See HELGESON, col. 80, lines 51-55, wherein this reads over "[m]odel pages are responsible for producing an XML representation of the content of the page . . . [by] executing complex business logic (e.g., running database queries".*

12. Regarding **independent claim 10**, HELGESON teaches:

A method for generating a modified view query of an XML document, comprising the step of:

composing an XSLT stylesheet *{See HELGESON, col. 51, lines 32-34, wherein this reads over "an XSLT stylesheet that transforms the model into a specific presentation environment"; and col. 65, lines 45-55, wherein this reads over "[t]he default XSLT processor that comes with Cocoon performs a single XSLT transformation only"}* with an XML view on a relational database to produce said modified view query *{See HELGESON, col. 80, lines 51-55, wherein this reads over "[m]odel pages are responsible for producing an XML representation of the content of the page . . . [by] executing complex business logic (e.g., running database queries"}.*

13. Regarding **independent claim 24**, HELGESON teaches:

A system for exporting at least a portion of a relational database to an XML document, comprising:

a memory *{See HELGESON, col. 3, lines 11-14, wherein this reads over "memory storing data"}*; and

at least one processor, coupled to the memory *{See HELGESON, col. 3, lines 11-14, wherein this reads over "a processor coupled to the memory"}*, operative to:

obtain an initial view query that defines an XML view on a relational database *{See HELGESON, col. 80, lines 51-55, wherein this reads over "[m]odel pages are responsible for producing an XML representation of the content of the page . . . [by] executing complex business logic (e.g., running database queries"}* and an XSLT stylesheet specifying at least one transformation *{See HELGESON, col. 51, lines 32-34, wherein this reads over "an XSLT stylesheet that transforms the model into a specific presentation environment"; and col. 65, lines 45-55, wherein this reads over "[t]he default XSLT processor that comes with Cocoon performs a single XSLT transformation only"}*;

modify said initial view query to account for an effect of said at least one transformation *{See HELGESON, col. 49, lines 46-53, wherein this reads over "Style Sheet Control System 810contains mechanisms to manipulate various kinds of display style sheets . . . and also can allow vendors/developers to modify . . . the mechanisms"; and col. 73, line 29 – col. 74, line 24, wherein this reads over "wdk taglibrary . . . includes tags for . . . managing the input and output parameters to the model page"}*; and

apply said modified view query to said relational database to obtain said XML document *{See HELGESON, col. 80, lines 51-55, wherein this reads over "[m]odel pages are responsible for producing an XML representation of the content of the page . . . [by] executing complex business logic (e.g., running database queries"}*.

Claim Rejections - 35 USC § 103

14. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

15. **Claims 2 and 25** are rejected under 35 U.S.C. 103(a) as being unpatentable over HELGESON, in view of Chau et al (USPGPUB 2002/0123993, hereinafter referred to as CHAU), filed on November 29, 2000, and published on September 5, 2002.

HELGESON teaches the limitations of claims 1, 10, and 24 for the reasons stated above.

HELGESON differs from the claimed invention in that HELGESON fails to disclose a method wherein the XSLT stylesheet is based on a restrictive subset of XSLT (claims 2 and 25).

16. Regarding **dependent claims 2 and 25**, HELGESON, in combination with CHAU, discloses a method wherein said XSLT stylesheet is based on a restrictive subset of XSLT *{See CHAU, Para. 0096, wherein this reads over "XML System uses a subset of Extensive Stylesheet Language Transformation (XSLT) . . . to identify XML elements or attributes"; and Para.0693, wherein "XML System adapts the notation used in Xpath and uses a subset of it to defined the XML document structure" reads on "the match pattern of a template rule, match(r.sub.i), is a pattern and is essentially a subset of XPATH path expressions"}.*

The combination of inventions disclosed in HELGESON and CHAU would disclose an invention which would comprise of a method wherein the XSLT stylesheet specifying the transformation would be based on a restrictive subset of XSLT. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the above invention suggested by HELGESON by combining it with the invention disclosed by CHAU.

One of ordinary skill in the art would have been motivated to do this modification in order to cover a reasonable variety of XSLT stylesheets applied to XML-publishing views.

17. **Claims 3, 11, and 26** are rejected under 35 U.S.C. 103(a) as being unpatentable over HELGESON, in view of Jones (USPGPUB 2004/0010754, hereinafter referred to as JONES),

filed on May 2, 2003, and published on January 15, 2004, and in further view of O'Carroll (U.S. Patent No. 6,772,165, hereinafter referred to as O'CARROLL), filed on November 15, 2002, and issued on August 3, 2004.

HELGESON teaches the limitations of claims 1, 10, and 24 for the reasons stated above.

HELGESON differs from the claimed invention in that HELGESON fails to disclose a method comprising the steps of generating graphs representing processing done by an XSLT stylesheet, and combining the graphs by matching pairs of nodes thereafter (claims 3, 11, and 26).

18. Regarding **dependent claims 3, 11, and 26**, HELGESON, in combination with JONES and O'CARROLL, discloses a method comprising the steps of generating a first graph representing processing done by an XSLT stylesheet *{See JONES, Para. 0029, wherein this reads over "Type analysis for XSLT is therefore a special case of type analysis for Xpath. . . . [A] tree of nodes (Xpath Tree 600 in FIG.#) is used to represent each Xpath expression after it has been parsed from its string form"}*, and combining the first graph with a second graph representing the initial view query by matching pairs of nodes from the first and second graphs *{See O'CARROLL, Figs. 1 and 9-11; col. 3, lines 40-50, wherein this reads over "merging the source trees to provide a target tree . . . [by] identifying matching nodes (X, Y, Z) in at least two source trees; inserting a single node corresponding to the matching nodes in the target tree"}*.

The combination of inventions disclosed in HELGESON, JONES, and O'CARROLL would disclose an invention which would comprise of a method wherein a first graph, specifically a tree, representing processing done by an XSLT stylesheet is generated, and the source trees (i.e. the first graph and second graph) are merged by identifying and matching pairs

of nodes in the graphs. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the above invention suggested by HELGESON by combining it with the invention disclosed by JONES and O'CARROLL.

One of ordinary skill in the art would have been motivated to do this modification in so that the combined graph may be pruned to remove unnecessary nodes and modified to produce a modified view query that handles formatting instructions

19. **Claims 6, 15, 19, and 29** are rejected under 35 U.S.C. 103(a) as being unpatentable over HELGESON, in view of JONES, in view of O'CARROLL, in further view of Bernstein et al (U.S. Patent No. 6,826,568, hereinafter referred to as BERNSTEIN), filed on December 20, 2001, and issued on November 30, 2004, and in further view of Mani et al (U.S. Patent No. 6,654,734, hereinafter referred to as MANI), filed on August 30, 2000, and issued on November 25, 2003.

HELGESON teaches the limitations of claims 1, 10, and 24 for the reasons stated above.

HELGESON differs from the claimed invention in that HELGESON fails to disclose a method for generating a modified view query of an XML document (claim 19).

HELGESON differs from the claimed invention in that HELGESON fails to disclose a method wherein the combined graph is pruned to remove unnecessary nodes, and is modified to produce a modified view query that handles formatting instructions (claims 6, 15, and 29).

20. Regarding **independent claim 19**, HELGESON, in combination with JONES, O'CARROLL, BERNSTEIN and MANI, discloses:

> A method for generating a modified view query of an XML document, comprising the steps of:

generating a first graph representing processing done by an XSLT stylesheet *{See JONES, Para. 0029, wherein this reads over "Type analysis for XSLT is therefore a special case of type analysis for Xpath. . . . [A] tree of nodes (Xpath Tree 600 in FIG.#) is used to represent each Xpath expression after it has been parsed from its string form"}*;

combining said first graph with a second graph representing a view query that defines an XML view on a relational database by matching pairs of nodes from the first and second graphs *{See O'CARROLL, Figs. 1 and 9-11; col. 3, lines 40-50, wherein this reads over "merging the source trees to provide a target tree . . . [by] identifying matching nodes (X, Y, Z) in at least two source trees; inserting a single node corresponding to the matching nodes in the target tree"}*;

pruning said combined graph to remove unnecessary nodes *{See BERNSTEIN, col. 19, line 63 – col. 20, lines 1, wherein this reads over "a pruning leaves process is provided . . . [because] leaves increase the computation time, even though many of them are irrelevant for matching"}*; and

modifying said combined graph to produce said modified view query that handles formatting instructions {See MANI, col. 4, lines 37-38, wherein this reads over "Tags: Codes (as in HTML or XML) that give instructions for formatting"}.

The combination of inventions disclosed in HELGESON, JONES, O'CARROLL, BERNSTEIN, and MANI would disclose an invention for generating a modified view query of an XML document. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the above invention suggested by HELGESON by combining it with the invention disclosed by JONES, O'CARROLL, BERNSTEIN, and MANI.

One of ordinary skill in the art would have been motivated to do this modification in so that a modified view query may be applied to the relational database to obtain the XML document, wherein the modified view query does not generate unnecessary nodes and replaces inefficient XSLT processing.

21. Regarding **dependent claims 6, 15, and 29**, HELGESON, in combination with JONES, O'CARROLL, BERNSTEIN and MANI, discloses a method wherein the combined graph is pruned to remove unnecessary nodes *{See BERNSTEIN, col. 19, line 63 – col. 20, lines 1,*

wherein this reads over "a pruning leaves process is provided . . . [because] leaves increase the computation time, even though many of them are irrelevant for matching"}, and is modified to produce a modified view query that handles formatting instructions *{See MANI, col. 4, lines 37-38, wherein this reads over "Tags: Codes (as in HTML or XML) that give instructions for formatting"}*.

The combination of inventions disclosed in HELGESON, JONES, O'CARROLL, BERNSTEIN, and MANI would disclose an invention which would comprise of a method wherein the leaves of the combined graph are pruned, and the combined graph is modified to produce a modified view query that handles formatting instructions. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the above invention suggested by HELGESON by combining it with the invention disclosed by JONES, O'CARROLL, BERNSTEIN, and MANI.

One of ordinary skill in the art would have been motivated to do this modification in so that the computation time may be decreased through pruning, and a modified view query may be later applied to the relational database to obtain the XML document.

22. **Claims 8, 17, 23, and 31** are rejected under 35 U.S.C. 103(a) as being unpatentable over HELGESON, in view of JONES, O'CARROLL, BERNSTEIN, and MANI , and in further view of Fernandez (U.S. Patent No. 6,785,673, hereinafter referred to as FERNANDEZ), filed on December 28, 2001, and issued on August 31, 2004.

HELGESON teaches the limitations of claims 1, 10, and 24 for the reasons stated above.

HELGESON differs from the claimed invention in that HELGESON fails to disclose a method wherein formatting instructions are expressed as output tag trees for each node in a

traverse view query, and wherein the output tag trees and the traverse view query are combined to generate a modified view query (claims 8, 17, 23, and 31).

23. Regarding **dependent claims 8, 17, 23 and 31**, HELGESON, in combination with JONES, O'CARROLL, BERNSTEIN, MANI, and FERNANDEZ, discloses a method wherein said formatting instructions are expressed as output tag trees for each node *{See O'CARROLL, Figure 2(b); and col. 4, lines 45-47, wherein this reads over "a parsing step 6 in which the syntax of the source document 2 is parsed to generate a hierarchical structure tree 7 of nodes"}* in said traverse view query *{See FERNANDEZ, Figure 3; and col. 6, lines 51-60, wherein this reads over "a view query that defines the XML virtual view of the database, . . . [specifically] an RXL query"}*, and further comprising the step of combining said output tag trees and said traverse view query to generate said modified view query *{See FERNANDEZ, col. 6, line 65 – col. 7, line 4, wherein this reads over "the view query and the user query can be passed to the query composer module 102 . . . which computes the composition and produces a new view query"}*.

The combination of inventions disclosed in HELGESON, JONES, O'CARROLL, BERNSTEIN, MANI, and FERNANDEZ would disclose an invention which would comprise of a method wherein formatting instructions are expressed as output tag trees for each node in a traverse view query, and wherein the output tag trees and the traverse view query are combined to generate a modified view query. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the above invention suggested by HELGESON by combining it with the invention disclosed by JONES, O'CARROLL, BERNSTEIN, MANI, and FERNANDEZ.

One of ordinary skill in the art would have been motivated to do this modification in so that a modified view query may be first generated using output tag trees and a traverse view query, and later applied to the relational database to obtain the XML document.

24. **Claims 9, 18, and 32** are rejected under 35 U.S.C. 103(a) as being unpatentable over HELGESON, in view of W3C ("XSL Transformations (XSLT), Version 1.0, hereinafter referred to as W3C), published on November 16, 1999.

HELGESON teaches the limitations of claims 1, 10, and 24 for the reasons stated above.

HELGESON differs from the claimed invention in that HELGESON fails to disclose a method wherein the obtained XML document is similar to a second XML document produced by applying a XSLT stylesheet on the XML document produced by the initial view query (claims 9, 18, and 32).

25. Regarding **dependent claims 9, 18, and 32**, HELGESON, in combination with W3C, discloses a method wherein an obtained XML document would be similar to a second XML document produced by applying the XSLT stylesheet *{See W3C, p. 3-4, wherein this reads over "[a] transformation expressed in XSLT describes rules for transforming a source tree int oa result tree . . . A pattern is matched against elements in the source tree . . . A style sheet contains a set of template rules. A template rule has two parts: a pattern which is matched against nodes in the source tree and a template which can be instantiated to form part of the result tree"}*.

The combination of inventions disclosed in HELGESON and W3C would disclose an invention which would comprise of a method wherein applying the XSLT stylesheet to a source document, particularly XML documents, would result in those documents being similar in structure and format. Therefore, it would have been obvious to one of ordinary skill in the art at

the time the invention was made to modify the above invention suggested by HELGESON by combining it with the invention disclosed by JONES, O'CARROLL, BERNSTEIN, MANI, and FERNANDEZ.

One of ordinary skill in the art would have been motivated to do this modification in so that a modified view query may be first generated using output tag trees and a traverse view query, and later applied to the relational database to obtain the XML document.

Allowable Subject Matter

26. **Claims 4-5, 7, 12-14, 16, 20-22, 27-28, and 30** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

27. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul Kim whose telephone number is (571) 272-2737. The examiner can normally be reached on M-F, 9am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Safet Metjahic can be reached on (571) 272-4023. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

SAM RIMELL
PRIMARY EXAMINER